Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Expanding Flexible Use of the 3.7 to 4.2 GHz Band	)	GN Docket No. 18-122
	)	
Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission's Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3.7-4.2 GHz Band	)	RM-11791
	)	
Fixed Wireless Communications Coalition, Inc., Request for Modified Coordination Procedures in Band Shared Between the Fixed Service and the Fixed Satellite Service	)	RM-11778

COMMENTS OF QVC, INC. AND HSN, INC.

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SUMMARY

QVC, Inc. and HSN, Inc. (collectively, "QVC/HSN") submit these comments in response to the recent C-band Spectrum Clearing Plan submitted by ACA Connects – America's Communications Association ("ACA Connects"), the Competitive Carriers Association, and Charter Communications, Inc. (the "ACA Proposal"), which claims to be able to clear 370 megahertz of the C-band using terrestrial fiber deployment as an alternative video delivery technology and pursuant to a timeline ranging from 18 to 60 months. QVC/HSN believe that additional detail regarding components of the ACA Proposal are needed for the Commission to determine the Proposal's sufficiency as a transition mechanism of first resort. Until further and comprehensive details are provided on the Proposal and those details are fully analyzed, QVC/HSN continue to believe the CBA Plan, with incremental modifications recommended in the record, provides the best assurance of uninterrupted video programming distribution services, while allowing for a staged reallocation of 200 MHz of C-band spectrum for 5G terrestrial services over the next three years. Then, a transition plan to fiber-based distribution, such as suggested in the ACA Proposal, could be appropriate in a successor phase to the CBA Plan. However, the forced flash-cut to fiber distribution called for in the ACA Proposal, beginning in just 18 months in urban markets, would subject the industry to significant and untenable risk.

As currently proposed and without further detail, the ACA Proposal would subject the video distribution industry to significant and untenable risk and would likely delay, not speed, the 5G C-band transition:

- First, clarification is needed for C-band users such as QVC/HSN that provide both MVPD and non-MVPD content whereby programming is distributed to both MVPDs and to television broadcast stations.
- Second, the ACA Proposal timeline underestimates the multitude of challenges in fiber deployment, and the sheer complexities of coordination between

programmers and numerous distributors, which in QVC/HSN's case include close to 700 cable MSOs and numerous broadcasters. This type of transformation from a spectrum-based distribution technology to a fiber one on an accelerated timeframe is untested, but with deployment deadlines that are given decisional significance, a missed deadline would either cause programming services to go dark or delay 5G use of C-Band spectrum in markets around the country. Even in urban areas, fiber deployments are uniquely idiosyncratic, with numerous variables, including exogenous ones beyond the control of the customer or fiber provider.

- Third, the ACA Proposal may introduce additional risks of service disruption and unreliability. Appropriate diverse, redundant, and secure network design must be fully incorporated into the C-band transition solution to avoid loss of service, and clarification is needed as to the extent these are sufficiently covered in the ACA Proposal. Questions remain and further detail is needed as to how the Commission may ensure that the fiber transition timeline in the ACA Proposal will actually be met across the industry. The ACA Proposal would also require incumbents to simultaneously serve both cleared and uncleared markets, which presents both enormous uncertainty and complexity for C-band incumbents, without any real assurance of interference protection between such markets. Complexities such as these illustrate why the ACA Proposal, if hastily implemented without thorough vetting, could collapse under its own weight, whereas the CBA Plan contemplates a simpler and simultaneous transition while protecting and limiting exposure to C-band incumbents.
- Fourth, the proposed cost reimbursements in the ACA Proposal are not sufficiently clear as to the scope of all reimbursable costs to programmers and distributors (e.g., ensuring technical compatibility between programmers and MSOs or broadcasters, additional technical personnel knowledgeable about architecting and maintaining a fiber delivery system, and any other increased operating costs of simultaneously using both fiber-based and satellite-based distribution).
- Fifth, the 370-megahertz reallocation proposed in the ACA Proposal is not necessary to transition incumbent C-band users off and license 5G wireless broadband licenses on the spectrum, and pressuring satellite operators and content providers into accepting less than the 300 megahertz of C-Band spectrum that would remain under the CBA Plan would have unintended consequences on competition and the content ecosystem. QVC/HSN continue to believe that any transition plan to repurpose more than 200 megahertz of the C-band would be untenable to the C-band ecosystem. It is well-established in the record that maintaining reliable content delivery requires keeping at least 300 megahertz available in the repacked C-band with the reallocation of no more than 200 megahertz, including a guard band.

At this juncture and until further detail could be provided on the ACA Proposal, QVC/HSN continue to believe that the CBA Plan provides the best assurance of uninterrupted

video programming distribution services over the next three years, while allowing for a staged reallocation of C-band spectrum for 5G terrestrial services. In that regard, QVC/HSN believe that a transition plan to fiber-based mechanism such as the ACA Proposal could be appropriate in a successor phase to the CBA Plan, but would be untenable in the timeframe proposed by ACA.

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COMMENTS OF QVC, INC. AND HSN, INC.

QVC, Inc. and HSN, Inc. (collectively, "QVC/HSN") respectfully submit these comments in response to the Public Notice of the Wireless Telecommunications Bureau, International Bureau, Office of Engineering and Technology, and Office of Economics and Analytics ("Bureaus") requesting additional comment on elements and variants of a recent C-band Spectrum Clearing Plan submitted by ACA Connects – America's Communications Association ("ACA Connects"), the Competitive Carriers Association ("CCA"), and Charter Communications, Inc. ("Charter") (together the "ACA Coalition", and their proposed Spectrum Clearing Plan, the "ACA Proposal"), as well as filings from AT&T and the Wireless Internet

Service Providers Association, Google, and Microsoft.[1] Through these comments, QVC/HSN respond specifically to the ACA Proposal.

INTRODUCTION AND BACKGROUND

QVC/HSN's multiple video programming channels – QVC, QVC2, QVC3, HSN, and HSN2 – are distributed on cable, satellite, other MVPD platforms, and over-the-air broadcast stations ("OTA") to reach over 100 million American homes. QVC/HSN's programming channels (including their online-only BeautyiQ channel), retail services and shopping programming are also provided over ecommerce and mobile commerce platforms. Continued and uninterrupted access to reliable and affordable video distribution services—as currently provided on the C-band—remains critical to QVC/HSN's business. Any programming distribution service disruption would not only have an immediate and substantial impact on QVC/HSN's consumer retailing business and associated revenues, but also would deprive their customers of the retail services upon which they rely. QVC/HSN believe that, at this juncture, only the C-band Alliance's transition plan ("CBA Plan"),[2] with the appropriate and incremental modifications recommended by QVC/HSN and others,[3] provides a transition scheme that would maintain undiminished and interference-free delivery of programming content to a viewing and listening public comprising hundreds of millions of Americans.

The ACA Proposal presents ambitious claims to be able to clear 370 megahertz of the C-band using terrestrial fiber deployment as an alternative video delivery technology pursuant to

[1] Wireless Telecommunications Bureau, International Bureau, Office of Engineering and Technology, and Office of Economics and Analytics Seek Focused Additional Comment in 3.7-4.2 GHz Band Proceeding, GN Docket No. 18-122, RM-11791, RM-11778, Public Notice, DA 19-678 (July 19, 2019).

[2] *See C-Band Alliance Proposal Fact Sheet: October 22 Update*, C-Band Alliance (October 22, 2018).

[3] *See, e.g.* Comments of QVC/HSN at 5-9 (October 29, 2018); Comments of NCTA, GN Docket No. 18-122 (October 29, 2018); Comments of the Content Companies, GN Docket No. 18-122 (October 29, 2018; Comments of EWTN, GN Docket No. 18-122 (October 29, 2018).

a three-stage timeline: (1) within 18 months in urban areas, (2) within three years in "most of the country," and (3) within five years in rural and "hard-to-reach" areas.[4] However, QVC/HSN are deeply concerned that the Commission may be swayed by the ACA Proposal's apparent promise to quickly deliver more C-band for 5G than other proposals when it actually may miscalculate the timing and complexities of a major, industry-shifting transition to fiber in such an accelerated timeframe. As further detailed below, additional detail regarding components of the ACA Proposal are needed for the Commission to determine the ACA Proposal's sufficiency as a transition mechanism of first resort. Even as a threshold question, it is unclear, absent new legislation, what existing authority in the Communications Act would allow the Commission to mandate and direct a fundamental reorganization of the content distribution industry through a government-compelled forced migration to fiber delivery and distribution, not to mention on a Commission-determined timeline.

Until further and comprehensive details are provided on the ACA Proposal and those details are fully analyzed, QVC/HSN continue to believe the CBA Plan, with appropriate modifications, provides the best assurance of uninterrupted video programming distribution services over the next three years, while allowing for a staged reallocation of C-band spectrum for 5G terrestrial services. In that regard, QVC/HSN believe that a transition plan to a fiber-based mechanism such as the ACA Proposal could be appropriate in a successor phase to the CBA Plan, but the forced flash-cut to fiber distribution called for in the ACA Proposal,

[4] *See* Letter from ACA Connects, CCA, and Charter, to Marlene H. Dortch, Secretary, FCC, GN Docket No. 18-122; (filed July 2, 2019); Letter from Pantelis Michalopoulos, Counsel for ACA Connects, to Marlene H. Dortch, Secretary, FCC, and attached Cartesian, Inc. C-band Spectrum Clearing Plan, GN Docket No. 18-122 (filed July 9, 2019). On August 6, 2019, ACA Connects submitted an *ex parte* communication indicating the ACA Proposal will be supplemented with additional detail "within weeks." *Ex Parte* Communication of ACA Connects, GN Docket No. 18-122 (August 6, 2019).

beginning in just 18 months in urban markets, would subject the industry to significant and untenable risk.

DISCUSSION

I. THE ACA PROPOSAL WOULD SUBJECT THE VIDEO DISTRIBUTION INDUSTRY TO SIGNIFICANT AND UNTENABLE RISK AND WOULD LIKELY DELAY, NOT SPEED, THE 5G C-BAND TRANSITION

A. Clarification Is Needed for C-Band Users that Provide Both MVPD and Non-MVPD Content.

QVC/HSN currently use the C-band to distribute their programming to both MVPDs and television broadcast stations, meaning that they do not fall squarely within one of the MVPD or non-MVPD categories the ACA Proposal establishes. Under the ACA Proposal, MVPD distributors would initially transition to the lower 370 MHz of the band, and would phase out of C-band delivery over a 5-year period as markets transition to fiber. In contrast, programmers that use the C-band to deliver content to broadcast and other non-MVPD distributors would be permanently relocated to the upper 130 MHz of the band, with no planned fiber transition for content delivery to broadcasters and other non-MVPDs. The theory of this approach is basically that broadcast and other non-MVPD distributors account for a relatively small amount of C-band spectrum use compared to their MVPD counterparts, but have a significantly higher percentage of earth station locations that would need to be connected to fiber, making a transition to fiber not viable in the short term for these non-MVPD distributors.

Under the ACA Proposal, programmers such as QVC/HSN that distribute to both MVPDs and broadcasters, would be required to both transition to fiber for their MVPD distribution, and to maintain C-band satellite distribution for their OTA broadcast distribution. This would obviously impose duplicative costs and complexities on such dual distribution programmers such as QVC/HSN, which would need to be compensated, pending any transition

of broadcasters to fiber-based program delivery, as well as the additional resources to deal with the complexity of using alternative delivery technologies depending on the distributor. In addition, more information is needed to consider the dual needs of such programmers and how the ACA Proposal would be able to ensure continuity of service while separately transitioning MVPD and non-MVPD distributors of QVC/HSN and any other similarly situated programmers.

B. The ACA Proposal Timeline Underestimates the Multitude of Challenges of Replacing Satellite Distribution with Ubiquitous Fiber Deployment.

QVC/HSN have no doubt that, over the long-term, fiber will serve as a vital component of the video distribution ecosystem nationwide that will be used to deliver programming on an end-to-end basis from programmer to distributor. QVC/HSN have acknowledged the partial availability of fiber particularly in top urban markets, but also recognized that fiber simply is not available and/or is prohibitively costly to deploy in the many rural and remote area markets where many QVC/HSN distributors are located and their customers reside.[5]

In order to transition from C-band to fiber-based programming distribution, it is critical that programmers such as QVC/HSN be permitted to proceed with deliberation based on their individual circumstances and market-based considerations. For such a transformational and industry-wide undertaking, QVC/HSN and other programmers, as well as their distribution partners, will need significant lead time to identify the appropriate vendor and network service provider partners, negotiate and put in place the required arrangements, engineer and deploy the required facilities and connections, and troubleshoot and "pressure test" this fundamentally new fiber based end-to-end program deliver scheme. Sufficient time and coordination are needed for design, deployment and testing in order to outfit facilities, data centers and cable headends

[5] Comments of QVC/HSN at 4.

before they can be commissioned for service, and C-band distribution can be shut down for particular MVPD customers, including the dual distribution via fiber and satellite until the reliability of the fiber-based system can be tested and assured. This is absolutely necessary to ensure the uninterrupted delivery of its programming with the same or better reliability that is today enjoyed with C-band distribution.

The fact is, no one today, not the ACA Coalition or their consultants, not programmers or MVPDs, and not fiber providers, can say with any assurance whatsoever, that such a transition can reliably be effectuated in the timeframes provided in the ACA Proposal. With no one in the industry having gone through this type of transformation from a spectrum-based distribution technology to a fiber-based one, the timeframes proposed by the ACA Coalition are at best a target, and perhaps just a hope. If those timeframes are given decisional significance, and they cannot be met whether more generally or for particular programmers or for MVPDs in particular markets, they will either have the effect of causing programming services to go dark, or significantly delaying the transition of C-band spectrum to 5G in markets around the country. In contrast, the CBA Plan will immediately provide for the certain transition of 200 MHz of spectrum, in a fixed and certain timeframe, setting the stage for the transition of additional C-band spectrum in a follow-on phase.

Fiber deployments are always subject to inherent complexities that are unique to each user and deployment. The Proposal's suggestion that all urban cable headends could be moved off satellite and onto fiber in 18 months is unreasonably ambitious and oversimplifies the fiber deployment process. Even in urban settings, it can take more than 18 months to get the permits and rights of way required to lay fiber to cable headends where it is not currently available or where diverse and redundant fiber paths are not yet provided. Extensive testing periods are

needed for each fiber connection before satellite service to that location can be terminated to ensure that the fiber configuration matches or exceeds the quality and reliability that C-band currently provides.

Even without the added hurdle of a transition clock and with the most seemingly controlled circumstances, QVC/HSN's own experience with fiber deployments belies the ACA Proposal's simplistic view. In QVC's experience, the deployment of dedicated fiber facilities to carry video programming between locations is uniquely idiosyncratic, with numerous variables, including exogenous ones beyond the control of the customer or fiber provider, that affect the length of time required to ensure sufficient reliability, which must be addressed and resolved, before a new facility, even after it is constructed, can move from testing to being placed in service.

Moreover, QVC/HSN have direct contractual relationships with close to 700 cable MSOs, of which 10 or fewer could obtain a fiber link within an 18-month timeframe. Nevertheless, QVC/HSN would still be required to work on a case-by-case basis with *all* of its MSO partners, large and small alike, many with multiple headends, to ensure that each receives QVC/HSN's signals over redundant paths, to troubleshoot issues, and to ensure that each is compliant with QVC/HSN's delivery methods and contractual obligations. This coordination process alone will demand a major expenditure of time and resources, requiring additional personnel to manage, and provides no guarantee of a successful fiber-based connection with all partner MSOs.

These types of experiences with fiber deployments are not atypical, and under a Commission-mandated, forced migration to fiber under a Commission-dictated shot-clock, they will be simultaneously in play across the industry. In a highly competitive market, such as the

video programming sector, the decision to transition to a new distribution technology and its timing, would ordinarily be a commercial decision of a particular video programmer based on its unique circumstances and marketplace factors. The prospect of programmers and MVPDs simultaneously deploying thousands of fiber facilities and connections around the country at breakneck speed in an effort to meet a Commission-imposed deadline, such as that contained in the ACA Proposal, is wholly unrealistic and would expose the video distribution ecosystem to unacceptable risk.

C. The ACA Proposal May Introduce Additional Risks of Service Disruption and Unreliability.

According to the ACA Proposal, content delivery would rely on hundreds of individual point-to-point fiber connections instead of a single and integrated C-band network solution, that for QVC/HSN has proven to be highly reliable. Appropriate diverse, redundant, and secure network design must be fully incorporated into the C-band transition solution to avoid loss of service to the over 100 million American homes served by QVC/HSN. Ultimately, QVC/HSN would need an end-to-end service level agreement managed by a party that can ensure reliable content transmission over the *diverse* and redundant fiber paths and multiple data centers that are contemplated in the ACA Proposal. Indeed, the ACA Proposal does specify IRUs and equipment for "redundant" paths. However, clarification is needed as to the extent to which this term refers to both diversity and redundancy.

Under the CBA Plan, C-band incumbents know which party is responsible for providing these services during the transition and that, with proper Commission oversight, imposed as a condition of the CBA private auction and through Commission oversight of its satellite operator licensees, satellite operators can be held to account for any lapses in service. The Commission, however, has no similar authority to manage the transition to fiber, or enforcement authority over

independent, competitive fiber providers. Indeed, the Commission, or a Commission appointed transition facilitator, would and should have absolutely no role in steering a transition to fiber-based distribution in a competitive market.

The import of this is that the Commission can do nothing to ensure that the fiber transition timeline in the ACA Proposal will actually be met across the industry, which could actually lead to significant delays in 5G C-band deployment well beyond the timeline of the ACA Proposal, as particular markets or providers are not transitioned within the specified timeline. It is easy to imagine a situation 18 months down the road from adoption of an order, where deployment has not kept pace with the Commission-mandated timeline. In those circumstances, would a particular programmer or cable operator be permitted to continue C-band distribution pending completion of its fiber deployment, with 5G deployment at those locations delayed or would C-band distribution to those locations, and the affected programming, nonetheless go dark for some viewers at the deadline, if the fiber deployment is not completed? Either alternative would be untenable – the first imposing potential and unpredictable market-by-market deployment delays for 5G, C-band use, and the second disrupting video programming distribution.

This illustrates a fatal flaw with the ACA Proposal. No one actually has the experience or data required to accurately predict whether the fiber transition can be completed on the timeline proposed. Those timelines sound appealing, but if they cannot be met—and the Commission has no assurance that they can—then the Commission faces the Hobbesian and unenviable choice of indefinitely delaying 5G deployment in a particular market or causing a video programming service in that market to go dark.

Even in the event of a successful 18-month transition in urban areas, the staggered clearance of markets proposed in the ACA Proposal creates enormous uncertainty for C-band incumbents as they must serve both cleared and uncleared markets without any assurance of interference protection between such markets. The only surefire solution to preventing interference between adjacent cleared and uncleared markets is to clear all areas nationwide simultaneously when *all* MVPD C-band services have been successfully replaced by fiber, which under the terms of the ACA Proposal would take as long as five years.

ACA Connects has suggested an "outer ring" solution in order to segregate 5G and satellite operations in cleared and uncleared areas, respectively, that are within the same service area of a 5G licensee.[6] ACA Connects indicates that the Commission can impose these temporary restrictions as conditions on the new 5G licenses, which would require wireless licensees to have holes in 5G coverage throughout license areas to protect and segregate uncleared areas.[7] Whether or not this would be an untenable solution for 5G proponents, for programmers and MVPDs what is unknown is the effectiveness, sufficiency, and enforceability of this suggested solution to both C-band and 5G operations as adjacent markets are in a constant state of flux as they are cleared or perhaps face clearance delays.

To the extent that the Commission wishes to move forward with the ACA Proposal as a transition solution, the "outer ring" suggestion and other possible solutions should first be subject to further consideration and detailed comment. Complexities such as these illustrate why the ACA Proposal, if hastily implemented without thorough vetting, could collapse under its own

[6] Notice of Ex Parte Letter of ACA Connects, GN Docket 18-122 (July 15, 2019).

[7] *Id*.

weight. Conversely, the CBA Plan contemplates a simpler and simultaneous transition while protecting and limiting exposure to C-band incumbents.

As to reliability, the record in this proceeding reflects that the industry reliability standard for C-band programming distribution has been 99.999% (or five nines).[8] The reliability of fiber networks is, in part, a function of engineering and construction, with the extent of route and provider diversity, fiber location and protection, and the use of trenched versus aerial construction, all contributing to fiber reliability. Any fiber-based plan must ensure the same level of reliability or better than C-Band distribution, and allow for a level of redundancy and diversity, as well as construction methods necessary to achieve that target, together with assurances that all costs of such arrangements are covered by a transition plan and are fully reimbursed under Commission oversight.

D. The Proposed Cost Reimbursements in The ACA Proposal Are Not Sufficiently Clear.

Even if, as the ACA Proposal suggests, initial fiber costs will be paid for by auction revenues, the financial burden to QVC/HSN of having to rely, at least in part, on a fiber distribution system, would result in increased operations and staffing costs beyond the costs incurred today. The ACA Proposal asserts that "[p]rogrammers would purchase IRUs and install equipment necessary to deliver their programming to between 40 and 50 existing data centers across the contiguous U.S."[9] Presumably these costs would be reimbursed from auction proceeds. However, the ACA Proposal is unclear as to the scope of all reimbursable costs to

[8] *See, e.g.*, Comments of the CBA at 13 and 16 (October 29, 2018) ("C-band satellite distribution technology today offers 99.999% reliability, a.k.a. 'five nines' reliability) and Reply Comments of NAB at 7 (December 11, 2018) ("It is unlikely that viable substitutes for the C-band will emerge in the near term that can provide the 99.999 percent reliability and ubiquitous coverage American households rely on today").

[9] ACA Proposal at 4.

programmers and broadcasters (e.g., ensuring technical compatibility between programmers and MSOs or broadcasters, additional technical personnel knowledgeable about architecting and maintaining a fiber delivery system, and any other increased operating costs of using both a fiber network and satellites). In contrast, the CBA Plan includes a detailed and predictable cost commitment, with Commission oversight, on which QVC/HSN, other programmers, and distributors can rely.

E. A 370-Megahertz Reallocation Unnecessarily Endangers the Whole of the C-Band Content Distribution System.

The 370-megahertz reallocation proposed in the ACA Proposal is not necessary to transition incumbent C-band users off and license 5G wireless broadband licenses on the spectrum. QVC/HSN agree with the National Association of Broadcasters ("NAB") that "continued pressure to increase the amount of spectrum reallocated in this proceeding greatly risks breaking the content distribution system that serves well over a hundred million American households today."[10] As it stands, 200 megahertz of C-band spectrum can be freed up in an initial transition phase while at the same time stakeholders could examine and fine-tune the details of a successor fiber-based transition. QVC/HSN further agree with NAB that "[r]eallocating 200 MHz now is a sound concept based on hard facts that have been independently considered and validated over the past year," that "[c]learing anything beyond 200 MHz will be based on supposition and guesswork," and "[b]y pressuring satellite companies and content providers to accept less C-band spectrum now, the […] Commission could easily be

[10] Notice of *Ex Parte* Communication, GN Docket No. 18-122; MD Docket No. 19-105, National Association of Broadcasters (August 1, 2019).

setting the stage for unintended consequences with significant ramifications for competition and the content ecosystem as a whole."[11]

QVC/HSN continue to believe that any transition plan to repurpose more than 200 megahertz of the C-band would be untenable to the C-band ecosystem. It is well-established in the record that maintaining reliable content delivery requires keeping at least 300 megahertz available in the repacked C-band with the reallocation of no more than 200 megahertz, including a guard band. Proponents of reallocating more than 200 megahertz of C-band spectrum have not addressed how undiminished and interference-free delivery programming content would be maintained in that environment, particularly in the absence of the active participation and cooperation of C-band operators.

II. THE CBA PLAN, AS MODIFIED BY INCREMENTAL RECOMMENDATIONS BY QVC/HSN AND OTHERS IN THE RECORD, PROVIDES THE BEST ALTERNATIVE FOR AN EXPEDITED TRANSITION OF C-BAND SPECTRUM TO 5G, WHILE ENSURING THE UNDIMINISHED AND UNINTERRUPTED DISTRIBUTION OF PROGRAMMING

At this juncture, QVC/HSN continue to believe that the CBA Plan, with appropriate incremental modifications, provides the best assurance of uninterrupted video programming distribution services while allowing for a staged reallocation of C-band spectrum for 5G terrestrial services. In that regard, QVC/HSN believe that a transition plan to fiber-based mechanism such as the ACA Proposal could be appropriate in a successor phase to the CBA Plan, but would be untenable in the timeframe proposed in the ACA Proposal.

More broadly, and beyond the ACA Proposal, QVC/HSN remains concerned that with the exception of the CBA Plan, proposed mitigations addressing C-band customer and user impacts have focused exclusively on compensation schemes for the costs incurred by incumbents

[11] "Siren Song in the C-Band," Bob Weller, Vice President, Spectrum Policy, NAB Policy Blog (August 5, 2019), *available at* https://blog.nab.org/2019/08/05/siren-song-in-the-c-band/.

in the transition of a portion of the C-band to terrestrial wireless use. Unfortunately, largely ignored by those who wish to exploit transitioned C-band spectrum for 5G services, have been the additional satellite capacity, the relocation of displaced incumbents to different C-band transponders, and the significant technical protections which will be required in a reduced C-band available for satellite delivery, all of which are necessary to maintain undiminished and interference-free C-band delivery of programming content to a viewing and listening public comprising hundreds of millions of Americans.

It is absolutely imperative that the Commission, as it considers various alternative transition mechanisms, maintains focus on how a particular mechanism will ensure the necessary satellite capacity and the relocation of incumbents to different transponders, which are needed to maintain undiminished operations in a reduced C-band, as well as the technical protections afforded programmers. In this regard, there are critical interdependencies between the particular choice of transition mechanism and the participation and cooperation of satellite operators that are critical to the continued viability of the remaining C-band spectrum for programming distribution that must be considered.

Simply put, the Commission cannot reasonably pursue an auction-based approach, including the ACA Proposal, without ensuring that the type of key programmer capacity and technical protections that are central components of the CBA proposal, are likewise included in any alternative mechanism being considered, the absence of which should be disqualifying of any such approach. Though QVC/HSN continue to have ongoing individual discussions with its CBA-member satellite provider about the details of its plan and the protections it offers as well as discussions with ACA Connects about its proposal, it is imperative that the Commission likewise keep these programming concerns at the forefront of its consideration of various

transition mechanisms, whether market-based, auction-based, or otherwise as it moves forward with a C-band transition.

CONCLUSION

QVC/HSN do not dispute the long-term, socioeconomic benefits of widespread fiber deployment or the growing consumer demand for 5G mobile broadband. However, imposing an unexamined transition mechanism that would transform an entire industry through a brute force technology shift in an accelerated timeframe is troubling as well as unprecedented. QVC/HSN urge the Commission to acknowledge that C-band content distribution services provided by satellite operators remain essential services and consider a fiber-based transition mechanism for a follow-on transition phase, after the transition of the initial 200 megahertz of C-band spectrum to 5G. Accordingly, in view of the currently proposed options in this proceeding, QVC/HSN would support: (1) the adoption of an initial phase that reallocates 200 megahertz while preserving and protecting continued C-band services consistent with the CBA Plan, and (2) further examination of a fiber-based successor phase whereby C-band incumbents in three years can implement a carefully considered fiber transition plan to allow further migration from and reallocation of the C-band to 5G.

Respectfully submitted,

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